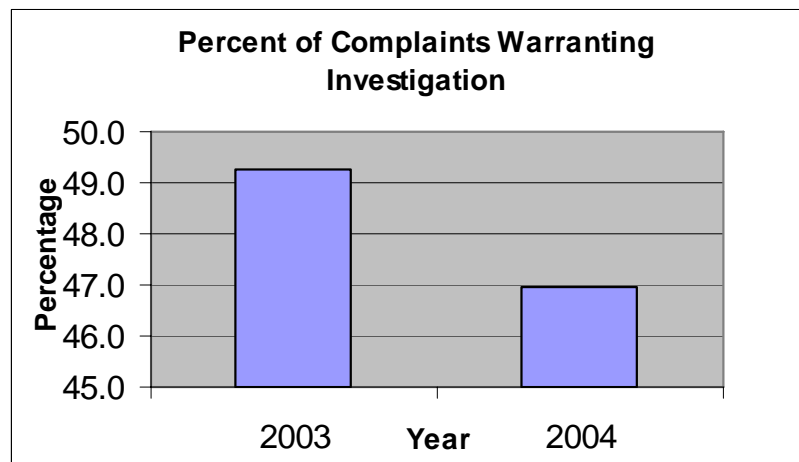


Foodborne Illness Surveillance and Investigation Program 2004 Annual Report

The Pinellas County Health Department has reviewed the information entered into the foodborne database for the calendar year of 2004 and compiled this report in order to look for trends and common elements in both complaints reported and investigations conducted during this time period. Certain tabulated statistics will also be compared with data from 2003 to allow for observation of trends over a longer period of time.

A total of 247 foodborne illness related complaints were received in 2004, 116 of which were investigated at a total of 68 establishments. (In some cases, more than one individual was included on one complaint.) The remaining 131 complaints did not meet the department's definitions of an outbreak or incident of foodborne illness and thus were not investigated. The department's definition of a foodborne disease outbreak is an incident in which two or more persons have the same disease, have similar symptoms, or excrete the same pathogens, in addition to a time, place, or person association between these persons. A single case of suspected botulism, mushroom poisoning, ciguatera or paralytic shellfish poisoning or a case of disease that can be definitely related to ingestion of a food is considered an incident of foodborne illness. In 2004, 47% of complaints received were investigated, a slight decrease from the 49.3% investigated in 2003 (see Figure 1).

Figure 1. Percent of Complaints Warranting Investigation in 2003 and 2004



Complaint Data

The demographic characteristics of individuals who submitted foodborne illness complaints in 2004 have been recorded and summarized as follows. Of total complaints received, 46.1% of complainants were male and 53.9% were female. A slightly greater difference is observed when

only looking at those complaints that warranted investigation, with 43.8% from males and 56.3% from females (See Table 1). The gender differential has decreased from 2003 to 2004, from a difference of 22 percentage points to one of 7.8 percentage points (See Figure 2). Possible reasons for this change range from actual changes in the percents of males and females getting foodborne illness to changes in reporting patterns and tendencies.

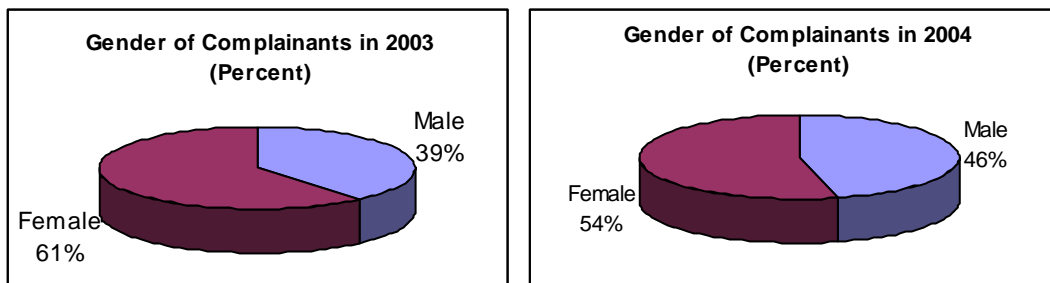
Table 1. Gender of Complainants by Percentage, 2004

Gender	Male	Female
Investigated*	43.8	56.3
Total**	46.1	53.9

*Out of 112 who selected a gender

**Out of 243 who selected a gender

Figure 2. Gender of Complainants by Percentage in 2003 and 2004



Currently, information collected on the race of complainants is categorized into three categories: White, Black, and Other. In 2004, the vast majority of complainants were white (85.7%). Only 7.8% of total complainants reported their race as black and 6.5% as a race other than black or white. In 2005, the categories for race data are being changed to match that of the Merlin database utilized by the Bureau of Epidemiology within the Department of Health. Race information will be split into two separate fields: race and ethnicity. The fields will be categorized as follows:

Race: American Indian/Alaskan Native
 Asian/ Pacific Islander
 Black
 Other
 Unknown
 White

Ethnicity: Hispanic
 Non-Hispanic
 Unknown

This change in classification of race data will not only bring consistency in storage of information on foodborne illness complainants between the Foodborne Illness Program and

county Disease Control Division but will also allow for greater knowledge of the racial and ethnic diversity of the population reporting foodborne illnesses.

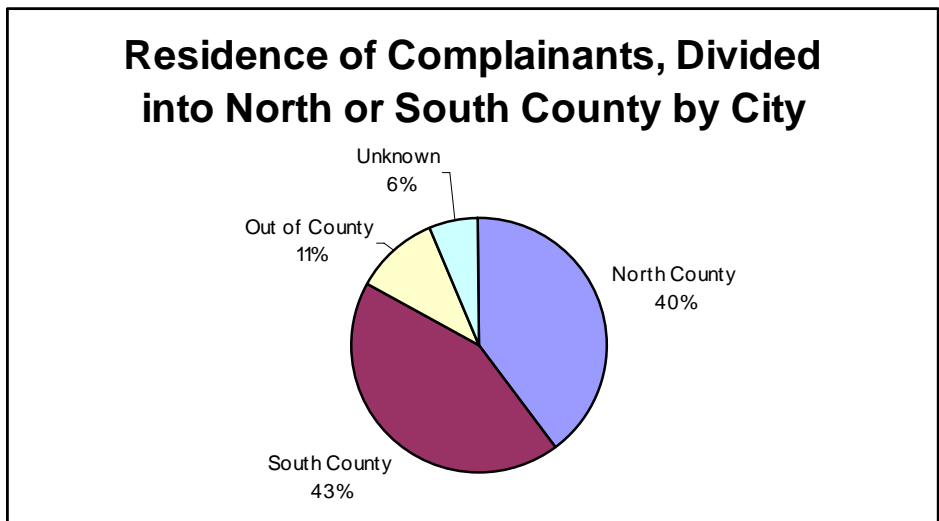
Location of the residence of each complainant is also recorded and has been summarized in both Table 2 and Figure 3 below. Table 2 shows the breakdown of city of residence of complainants. Figure 3 roughly divides the county into north and south areas. The north county area includes Belleair, Clearwater, Clearwater Beach, Dunedin, Largo, Oldsmar, Palm Harbor, Safety Harbor, and Tarpon Springs. The south county area is defined as Gulfport, Indian Rocks Beach/Indian Shores, Madeira Beach, Pinellas Park, Seminole, St. Petersburg (including Kenneth City), and St. Pete Beach (including Tierra Verde and Treasure Island). There were more foodborne illness complaints received from residents of the south county region than from the north county region, out of county area, or unknown areas. However, there was only a slight difference between the two county regions.

Table 2. City of Residence of Those* Submitting Foodborne Illness Complaints, 2004

City	Number
Belleair	2
Clearwater	36
Clearwater Beach	1
Dunedin	8
Gulfport	2
Indian Rocks Beach/Indian Shores	1
Largo	24
Madeira Beach	2
Oldsmar	2
Palm Harbor	15
Pinellas Park	9
Safety Harbor	4
Seminole	13
St. Petersburg	77
St. Pete Beach	3
Tarpon Springs	6
Out of Pinellas County	27
Unknown	15

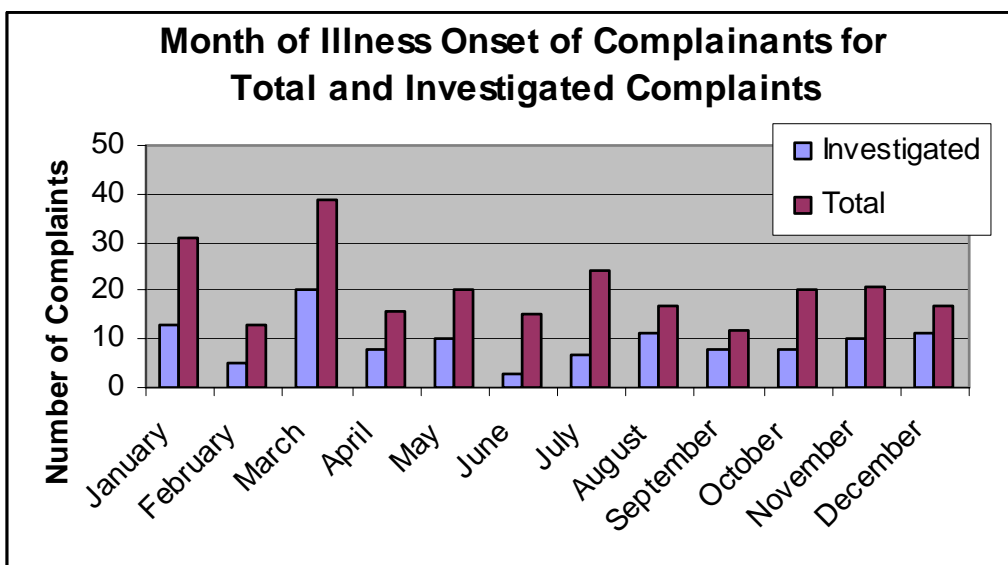
*For the purposes of this comparison, each complaint entry has been counted as one complaint.

Figure 3: Area Location of Complainant Residences by Percentage, 2004



In addition to the physical location of complainant residences, it is also interesting to look at the time of year of the date of onset of reported complaints to allow for observations of trends and to help in surveillance for outbreaks. In 2004, fluctuation was observed in both numbers of complaints received and investigated from month to month. While the most complaints were received, and thus investigated, during the winter quarter of January through March, there were no other obvious seasonal trends in reporting of complaints (See Figure 4).

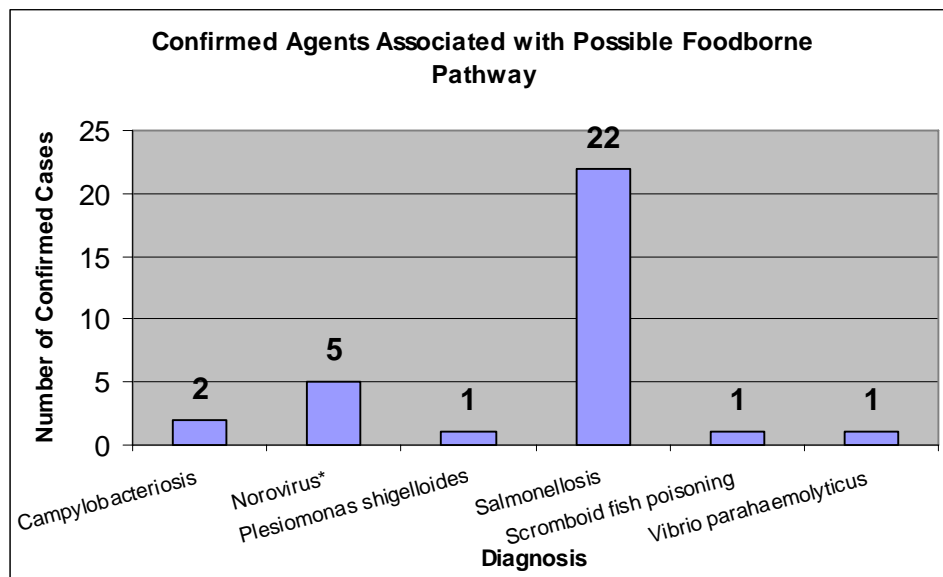
Figure 4. Month of Illness Onset for Total and Investigated Complaints, 2004



Illness Data

Of the 247 complaints received in 2004, only 41 of them had a confirmed pathogen indicated, leaving 206 complaints of unconfirmed illness with a possible foodborne pathway. Of the 41 confirmed cases, Salmonella was by far the most prevalent pathogen, with 28 confirmed cases. The remaining confirmed agents are identified in Figure 5.

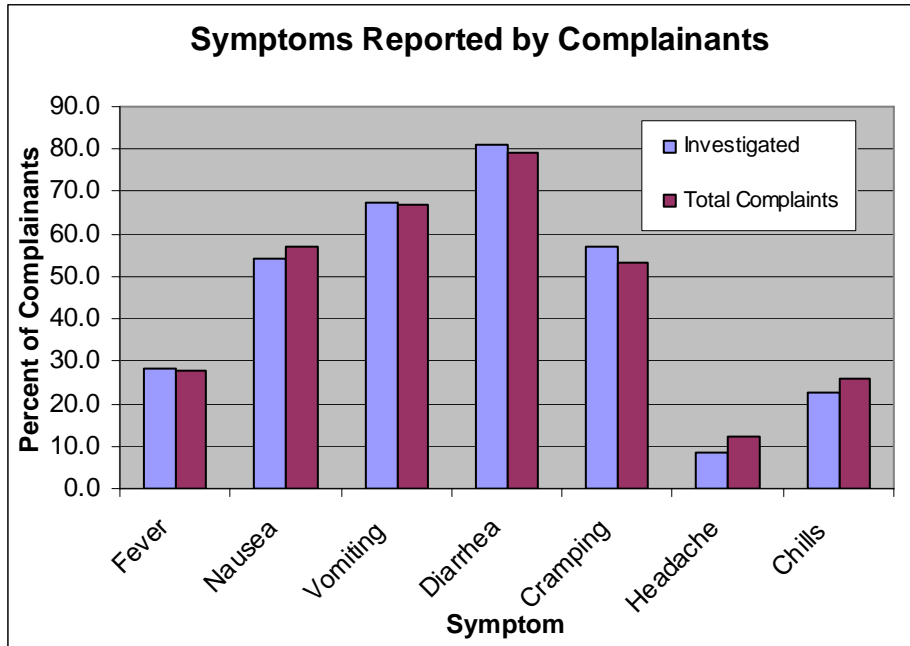
Figure 5. Confirmed Agents Associated with Possible Foodborne Pathway in Reported Complaints, 2004



*In database as one complaint, however 5 people tested positive.

In both confirmed and unconfirmed cases, many similarities can be seen amongst the symptoms of complainants, the majority of which were gastrointestinal in nature. Seven of the most common symptoms of foodborne illness are fever, nausea, vomiting, diarrhea, cramping, headache, and chills. Of these common symptoms, diarrhea was the most prevalent, occurring in approximately 80% of both investigated and total complaints. Following diarrhea in order of highest prevalence were vomiting, nausea, cramping, and fever (See Figure 6). Both investigated complaint and total complaint groups had similar levels of each symptom, which might indicate similarity between levels of illness in both groups.

Figure 6. Symptoms Reported by Complainants in Both Investigated and Total Complaint Groups by Percentage, 2004



While over 200 foodborne illness complaints were received in 2004, a small number of these involved collection of specimens to possibly identify a pathogen, which might help explain the small number of confirmed pathogens in Figure 5. The number of specimens collected, divided into different types, is shown in Table 3 below.

Table 3. Number and Type of Specimens Collected from Total and Investigated Complaints, 2004

Type of Specimen	Investigated	Total
Stool	27	43
Blood	3	9
Urine	2	4

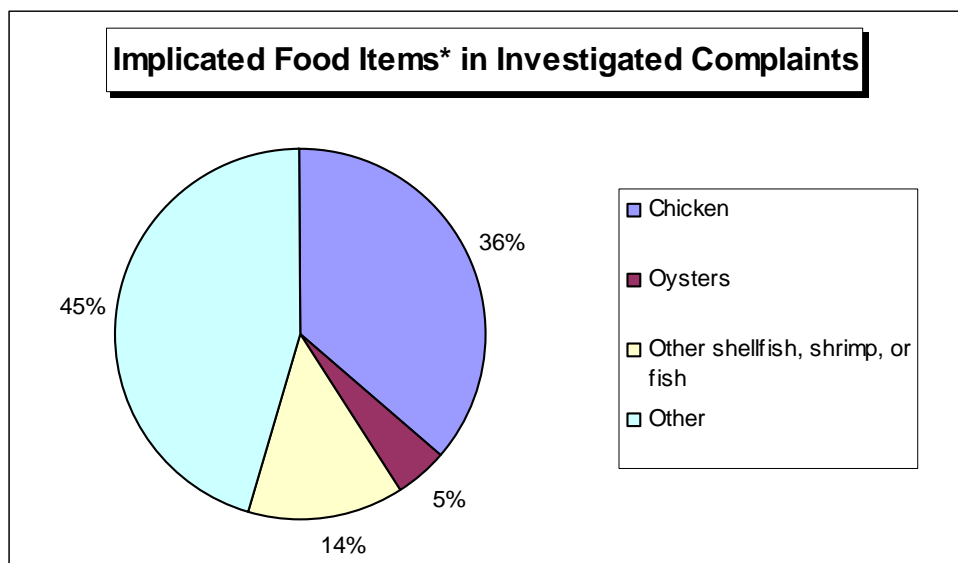
Investigation and Establishment Data

For those complaints that are investigated, data on the implicated food and the establishment itself is recorded and has been summarized. The majority of the establishments inspected are regulated by the Department of Business and Professional Regulation's Division of Hotels and

Restaurants (DBPR) (92.6%). Only 7.4% are regulated by the Department of Agriculture and Consumer Services (DACS), and none of the foodborne illness investigations in 2004 were of facilities regulated by the Department of Health (DOH). In 2003, these percentages were similar, with 91% DBPR, 6.4% DACS, and 2.6% DOH.

For each complaint received (or group of related complaints), there are one or more establishments indicated along with one or more possible implicated foods. The most common specific implicated food item (of the complaints that warranted an investigation) was found to be chicken, however, the category with the highest percentage is that of “Other”, which would indicate great variability in implicated foods reported (See Figure 7).

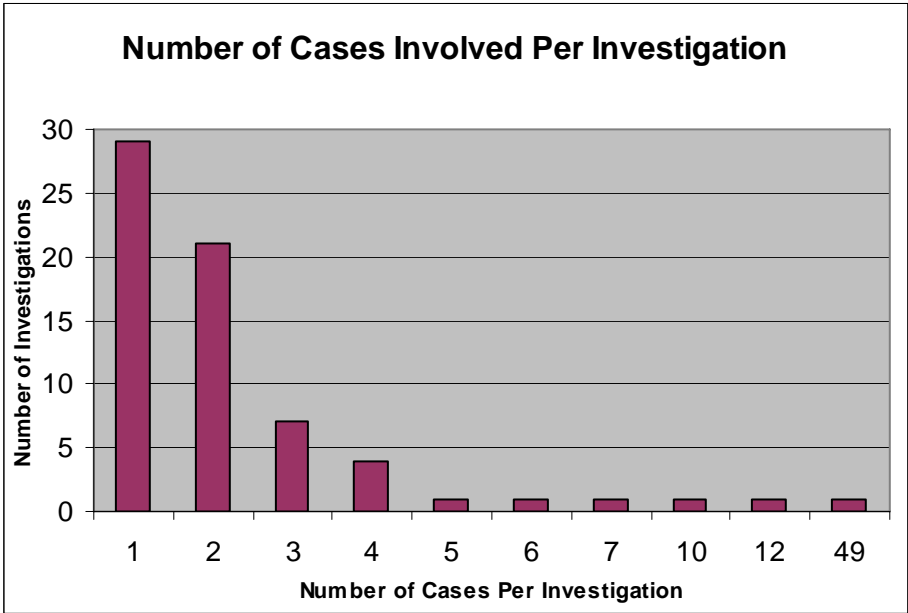
Figure 7. Percent of Implicated Food Items in Investigated Complaints, 2004



*Out of 88 implicated food items from 116 complaints investigated

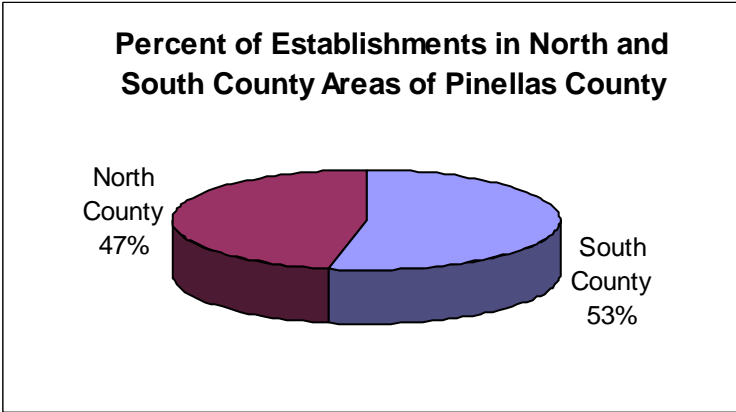
As there were 116 investigated complaints and only 68 establishments investigated, there was often more than one complaint for each establishment. The number of complaints per investigation ranged from 1 to 49, with the majority of the investigations only stemming from one or two complaints (See Figure 8).

Figure 8. Number of Complaints Involved per Investigated Establishment, 2004



As was mentioned earlier, the number of complaints from residents in north versus south county areas was very close, with slightly more from the south county area. The location of the implicated establishment mirrors those figures fairly well. Out of 68 establishments investigated, 36 of them were located in south county and 32 were located in north county (See Figure 9). Categorization as north or south county was determined by city and divided in the same way as city of residence, stated above Table 2.

Figure 9. Percent of Investigated Establishments in North and South County Areas, 2004



Commonalities among the investigation results have also been found. The most commonly written up food handling and food preparation notes include hand wash sink violations, personnel behavior violations, and hair restraint issues. Aside from noting violations, the investigators also follow the implicated food through its storage, preparation, and serving at the establishment and develop a flow chart of this information. From the flow chart, they are able to identify critical control points, or steps in the food preparation process where a control can be applied and is essential to prevent or eliminate a hazard (or reduce it to an acceptable level). The most commonly identified critical control points all involve inadequate food temperatures in storage, holding and cooking. Specific numbers of such observations can be seen in Table 4.

Table 4. Most Common Food Handling/Prep Notes and Critical Control Points in Investigations by Number and Percentage, 2004

Food Handling/Prep Notes	Number	Percent
Handwash Sink Violations	24	35.3
Personnel Behavior Violations	14	20.6
Hair Restraints	3	4.4

Critical Control Points	Number	Percent
Storage Temperatures*^	12	17.6
Hot Holding Temperatures	5	7.4
Final Cook Temperatures**	20	29.4

*Includes cold holding temperatures

**Was most identified CCP in 2003

^Was second most identified CCP in 2003

Future Plans

The Foodborne Illness Surveillance and Investigation Program will be undergoing some changes in 2005 to improve the quality and consistency of the data collected and hopefully allow for easier observation of trends of foodborne illness over subsequent years. The Microsoft Access database will be assessed and altered to fit the evolving needs of the program and data contained within it. Additional training will be developed and given to increase consistency among the intake of foodborne illness complaints and investigation of implicated establishments.